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Sallie D. Allen
Editor

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Cover Illustration:
Tropaeolum speciosum
Sally E. Dickman



The Perplexities of *Tropaeolum speciosum*

1

Milton Gaschk, Tacoma, Washington

My first introduction to this curious beauty occurred during a visit to Wisley Gardens around 1970. I believe the month was August. While wandering through the rock garden area, my attention was drawn to a brilliant mass of scarlet on the upper regions of this garden. Closer scrutiny revealed a vine with small nasturtium-like flowers, rambling through and over a group of rhododendren. Inquiry from a young female student revealed the name *Tropaeolum speciosum*, or more commonly called Chilean flame-flower, or Scottish flame-flower. I naively entered the name in my notebook as a reminder to look for seeds, little suspecting what I was letting myself in for.

Jack Drake, nurseryman in the Scottish Highlands, was my first source of seed. The first sowing took place in the late fall of 1970, with negative results. During subsequent years, seed was obtained from Jack Drake, the R.H.S., the Scottish and English rock garden societies. For five years, employing various stratification treatments, hot water immersion and fire, all seeds failed to respond.

In response to a letter to the R.H.S. requesting help, I was informed that germination of this seed was most difficult and no advise could be offered; but if I came up with a successful method, to let them know. This was most discouraging.

It must have been around 1976, that through some quirk of nature, the first germination occurred. Three pans, each with half-dozen or so seeds, produced seedlings which grew on quite well, providing some three feet of growth during the season.

Carefully selecting the most choice spots, the three pans of seedlings were transplanted with the utmost care (fall 1976). To minimize disturbing the immature roots, the bottom of the pans were removed, and the whole set into position. The first group, which had been placed under a birch, made a brief appearance in the spring of 1977, lingered awhile and then gave up. I never saw it again. The second pan, placed under a deciduous azalea, emerged on schedule and grew moderately well that year, but in the spring of 1978 failed to make an appearance. However, in the spring of 1979, it unexpectedly resumed activity some three feet from the original planting and grew on to flowering size. The third planting, under a vine maple, *Acer circinatum*, and in the most ideal situation -- a deep organic bottom with good moisture retention -- proved to be the superior of the three, vigorously climbing up the trunk and flowering quite profusely. The latter two plantings are on the northeast side of the house, with little morning sun, though the tops are in full sun during much of the afternoon. The root area is almost in constant shade. The soil is kept moist all summer and additional compost and leaf mold are added yearly. No fertilizer is used.

In the spring of 1977, while on a tour of New Zealand with the International Dendrology Society, I observed this plant growing in two locations; in the Pukeiti Gardens near New Plymouth, rambling along a fence in

a most beautiful fashion. However, it was in a private garden in the same region where this vine demonstrated the most magnificent sight, enveloping much of a tree to a height of about 20 feet. It was from this plant that I gathered a handful of seed which, as an experiment, I sowed in numerous locations that spring, to see if material from a new source would exhibit more enthusiasm for germination. Not a single seed responded. It is possible that these seeds were a bit immature. However, the following year I received a generous supply by mail from the same source, and again no luck.

Now, returning to an earlier period in this episode; it was during that magnificent Sallie Allen garden tour of the United Kingdom (Sallie let me have all her Trifle desserts) that we visited the Jack Drake nursery from where many of my *Tropaeolum speciosum* seeds originated. I now had the opportunity to personally question the chief propagator in the matter of seed germination. Regrettably, he was unable to offer any suggestions since the source of their plants was entirely from rootstock and they had no reason to use seed, nor did they attempt this method of propagation. He did mention that on one occasion, seed had accidentally (and unknown to them) somehow gotten into the moist gravel base in one of the staging benches (in a cold house) where it had germinated in great numbers the following spring. I did purchase two plants here, placing them in the back window of our mini-bus where they languished in a very hot and dry situation on our circuitous and zigzagging way back to London, where they croaked.

Meanwhile, sometime in September 1978, my neighbor found a young seedling of this plant growing in his garden. By actual measurement it was 75 feet downwind from the parent planting (the presumed source). Quite obviously, the source of this plant must have been a seed, either transported by wind or bird. The bird theory sounded quite plausible, except that we had never seen a bird munching on these seeds. However, to prove a point, I placed a panful of seed in an area where birds were often seen feeding. The seeds remained untouched by the birds, they were rained upon, periodically going through many cycles of wet and dry. Finally, around the end of November, the seeds still untouched, I emptied the contents on the ground. Sometime later, and quite accidentally, I placed a large rock over the seeds which remained in place all winter. In late spring the following year, in removing the rock, I was most surprised to see that most seeds had germinated. The seedlings grew on well until I removed them.

The obvious now seemed that the rock had some bearing on the matter. So that fall I repeated the experiment, only to be disappointed the next spring when removing the rock and finding there was no sign of activity. The rock was replaced, and although the site was inspected occasionally during the summer, I finally concluded the test to be a failure. But the sulky mannerism exhibited this year was no indication that more was not to come -- the following spring, upon removing the rock, many seedlings had emerged and produced healthy plants.

As the original planting under the vine maple has now reached the state where the vines cover much of the 15 foot tree, considerable amount of dead plant material has to be removed in the fall. This debris, including hundreds of seeds, are added to the compost pile, along with most other organic material from the garden. Seeds are, of course, dropped over much of the garden during the cleanup process and do appear as new seedlings here and

there. These cause no problems and are easily removed. Also, after distributing the new compost, a few volunteer seedlings appear later in the spring, but in no serious numbers. Most of the seeds apparently have been consumed by the composting process, or so it seemed, until very recently. In mid-December 1982, while opening up the compost pile to bury a bucket of Grapefruit rinds, I was struck by a most singular sight. Amongst the still uncomposted material, there was a great mass of what seemed to be a vigorous mycelium activity. I had never observed such extraordinary (what I thought to be) fungal growths before in any of the former composts, and in examining the material closer, I was even more surprised to see the presumed white hyphae to be, in fact, newly emerging rootlets from seed capsules of *Tropaeolum speciosum*, many hundreds of them.

There appears to be no great problem involved in the vegetative propagation of *Tropaeolum speciosum*. In early spring (March) using an ordinary garden shovel, I dig into the bed as if digging potatoes, lifting the root-thongs and throwing them aside into a pile until the necessary number have been accumulated. The roots are then potted up into 3½ inch plastic containers and set aside until new growth occurs.

Some concern has been expressed that this plant may become invasive. Perhaps, if the soil and exposure conditions are ideal, considerable tuber spread may be experienced. I have found that by cutting or pulling up any newly emerging growths, control is quite easily achieved. George Pinyuh, who has received this plant from me, good naturedly ribbed me, claiming that I had given him a monster that was taking over his garden. I have been told by a friend in Sweden that in his garden this vine has spread to an area of around one acre. Perhaps a modest exaggeration.

Nevertheless, I consider *Tropaeolum speciosum* as one of the choice plants in my collection and wouldn't be without it. The main flush of flowering is spectacular, preceded by the developing buds, that in my neighbor's words "look like a squadron of miniature helicopters". Finally, as a further bonus, the seed in a triangular trio provide a show of purple splendor.

Achillea ageratifolia
(Compositae)
Northern Greece



Vernece Larochele

Rock garden, carpenter
light soil, sun
white, 2-4"

Sorbus prattii

Brian O. Mulligan, Kirkland, Washington, Director Emeritus,
University of Washington Arboretum

It is pleasing to be able to record the discovery of an authentic specimen of this white-fruited Chinese mountain ash growing in a garden on the outskirts of Seattle, namely that of the editor of this journal.

The seeds from which it was raised came in 1965 from a most reliable source, the Royal Botanic Garden, Edinburgh, Scotland, though apparently without this name attached to them. The tree is now about 15 feet tall and ten feet in width, so it is very suitable for small gardens. The twigs are slender, brown and smooth, the winter buds ovate and rusty-hairy, the leaves compound like those of the common European mountain ash, *Sorbus aucuparia*, but composed of many more (12-13 pairs) much smaller leaflets which are 1/2 to 3/4 inch long and about 1/4 inch wide, finely and evenly serrate almost to the base; the paler green underside has a thin covering of brownish hairs, especially along the raised midrib. The white flowers open in May; they possess five styles and the petals are hairy inside near the base. Clusters of fruits ripen in September and October on rusty-pubescent peduncles, bearing up to eight fruits on each branch; these are 1/4 to 3/8 inch in diameter, flattened-globose in shape, with the dried blackened styles still projecting from their tips. For comparison, those of the very decorative *S. cashmeriana* are 1/2 inch in width.

Sorbus prattii was named by the German botanist, Dr. Emil Koehne, in 1913 for the English amateur zoologist and plant collector, A. E. Pratt, who had first discovered it in flower in Western Szechuan in 1889 or 1890. However, it was not introduced to western gardens until October 1910 when E. H. Wilson collected fruits in the same region and sent seeds to the Arnold Arboretum at Boston, which was then employing him. No doubt it has also been reintroduced subsequently by George Forrest and other collectors in the same area. Pratt was one of the first Europeans to visit western China after it became possible to do so, and was there from 1887 to 1890. In the last year he was there, he climbed Mount Omei, and later wrote an account of his travels in a book entitled To the Snows of Tibet through China. A rhododendron, rose and a barberry are also named from him.

Sorbus prattii has a considerable resemblance in foliage and fruits to the also white-fruited species *S. koehneana* as seen in the Arboretum's collection in Seattle, but the latter is usually a smaller plant not forming a definite tree as does this *S. prattii*, with fewer and larger leaflets glabrous or nearly so beneath; the petals also lack any hairs on their inner face. The tallest plant of *S. koehneana*, planted in March 1959, is now 16 feet in height.

This is also a Chinese species, from the provinces of Hupeh and Shensi, as is the rosy-red fruited *Sorbus vilmorinii*, but from the southwestern province of Yunnan, introduced by the missionary Father J. M. Delavay to the Vilmorin nursery and arboretum in France in 1889. It is likewise quite hardy in Seattle, possess nine to fourteen pairs of leaflets, has small white

flowers in June and the fruits ripen in October, becoming paler with age. Two specimens can be seen in the Arboretum collection, raised from seeds received from a garden in Ireland in 1966; they are now 13 and 14 feet tall.

Propagation by seeds is the simplest method of raising these attractive small trees, although they may not always come true to type if the seeds come from a garden where several species are growing together. The large white fruited *Sorbus cashmeriana* is an exception to this rule, as are some others, and can be depended upon to reproduce itself. Otherwise they have to be grafted or budded on a related species, which is usually the common *S. aucuparia*, although this may prove too vigorous for some of the smaller types, leading to continuous problems with the stock growing up from the base.

At the same time and in the same publication (*Plantae Wilsonianae*) that the industrious of Doctor Koehne described *Sorbus prattii* and two forms of it, he also described on the following pages *S. munda* and two slightly differing forms of it, distinguishing it from *S. prattii* in his accompanying key to these Chinese species by rather slight and variable characters of the stipules, and the size, serration and pubescence of the leaflets. All had been found by Wilson or Pratt in the same area of western Szechuan.

The latest volume of the revised and enlarged eighth edition of the authoritative work *Trees and Shrubs Hardy in the British Isles*, by W. J. Bean, now edited by D. L. Clarke, places *Sorbus munda* and its forms as synonyms of *S. prattii*, and comments:

"It varies slightly in the size and number of its leaflets and the degree of their hairiness, but the varieties and independent species made out of these variations are not marked enough to merit recognition." So the superfluous name *Sorbus munda* can conveniently be forgotten.

NOHS Supports Sikkim Expedition

Sallie D. Allen, Seattle, Washington

The NOHS is supporting a unique and exciting expedition to the Sikkim Himalayas, by contributing \$1,000 to the fund created and sponsored by the Alpine Garden Society of Great Britain. It is unique in many ways, not the least of which is that three of the expedition participants are contributing members of our Society. Of tremendous assistance from within Sikkim has been Keshab Pradhan (NOHS member), providing information, advice and assisting in obtaining the necessary permits, etc. It is a two team effort, the first which will be in June and early July, has as its objective to make an extensive study of the alpine flora of western Sikkim from 12-16,000 feet, an area where practically no horticultural assessment of the wild flowers has been made at a time of year, the monsoon season, when flowering is at its peak. At that time they will seek out and mark not only new alpine plants and shrubs but also superior forms of those plants already in cultivation. The rich and varied flora expected to be found includes over 50 species of *Primula*, 30 or more species of *Rhododendron*, *Androsace*, *Saxifraga*, *Gentiana*, *Gaultheria*, *Vaccinium*, *Cassiope* and many more. The second team will follow in the fall to collect seed of those plants marked.

Serving as expedition co-ordinator is Barry N. Starling, England, a long time contributing member of the NOHS, who will accompany both teams. All expedition members have had extensive experience in plant hunting in rugged, remote mountainous areas of the world.

First team participants are:

Chris Brickell, Director of the Royal Horticultural Society's Garden at Wisley, author,

Brian Mathew, Kew botanist and author of several books,

Patrick Seymour, Director, Devonian Botanic Garden, University of Alberta, Edmonton, Alberta, Canada, (contributing NOHS member),

Barry N. Starling, knowledgeable plantsman, specialty, Ericaceae Family, author of many horticultural articles,

Michael Upward, Secretary of the Alpine Garden Society of Great Britain.

Second Team:

Peter Cunningham, Assistant Curator, University of Liverpool Botanic Gardens, Ness,

David Mason, Wakehurst Place, Rhododendron and Primula specialist,

Stuart Macperson, in charge of the alpine house, Royal Botanic Garden, Edinburgh,

Barry Starling, as a member of both teams, will be helping to relocate marked plants found by the first team.

The first team will be bringing back herbarium specimens, and work will begin immediately on comparing these with previously collected dried material in order that most seed distributed will be positively identified. A committee headed by Mrs. Kath Dryden, President of the Alpine Garden Society, will be geared to work with the seed immediately upon the return of the second team. They will handle the arduous task of sorting, cleaning and packeting the seed harvest. All consignments of seed will be accompanied by field notes with details of habitats and soil pH.

The NOHS will be richly rewarded by receiving its share of seed, a portion of which will go to our knowledgeable Propagation Study Group, who will grow on the resulting plant material for introduction through our future plant sales. A portion of our allotment will also go into our 1984 Seed Exchange in order that our members have the opportunity to individually try to grow seed from this exciting adventure. Barry Starling has offered to write up both expeditions which will enrich the pages of future issues of Horticulture Northwest.

Please note that this expedition has been greeted with such overwhelming enthusiasm that individual £25 and £50 shares are no longer available.

Seeds and Propagation

Sylvia Duryee and Marjorie Baird

The seed exchange committee has done a great job cleaning and packaging for our 1983 seed distribution and of course, without the time, effort and generosity of our contributors, there would be no Exchange! Thank you. But special thanks are due to several members:

Brian Mulligan, for verifying the nomenclature of our list.

Mareen Kruckeberg, for the many hours she stole from her nursery business to give us her advice and help.

Jocelyn Horder, for lending her microscope for the duration which made our work more fascinating, educational and helped us to be surer of the viability of the seeds.

* * * * *

It would help the seed exchange committee tremendously if the contributors would clean their seed before sending it in. It is our policy to send out as clean seed as possible. We realize that the seed collecting, storing and cleaning is a labor of love, but what a terrific member contribution to the NOHS!

* * * * *

In order to fill more requests, some of the seed packets will be small, so take care in sowing. Some thoughts:

- ... use clean (sterile) pots and soil, sow your precious seed, label and water well with a fine spray;
- ... place outside in a shady, protected spot;
- ... cover with screen for keeping beasties in full retreat; (also slug bait!!)
- ... all of the seeds will not germinate at the same time so be patient;
- ... although heavy rain will flood out or cripple your seed and seedlings, letting them dry out is certain death!
- ... Tune in next Journal for "Growing On" hints.

* * * * *

For those of you who have always wanted to grow something from seed but have not quite known how to begin, and, for those who have had trouble with seed germination, there will be a SEED-PLANTING BEE at Sylvia Duryee's April 19th and again on the 22nd, at 10 A.M. There may be a small fee for containers, medium, seed and spore. Bring your own labels. Because there can only be a maximum of 15 participants, call early, 329-2062.

* * * * *

Have you a space problem? What do you do if you cannot use all of the plants that grow from your Exchange seed and PROPAGATING BEES? Save them for the NOHS Fall Plant Sale, of course! Perennials should be large enough the second fall and shrubby material, the third. Or call Sylvia (239-2062) or Marge (454-3862) and we will find foster homes. Anyone interested in a TRANSPLANTING BEE?

* * * * *

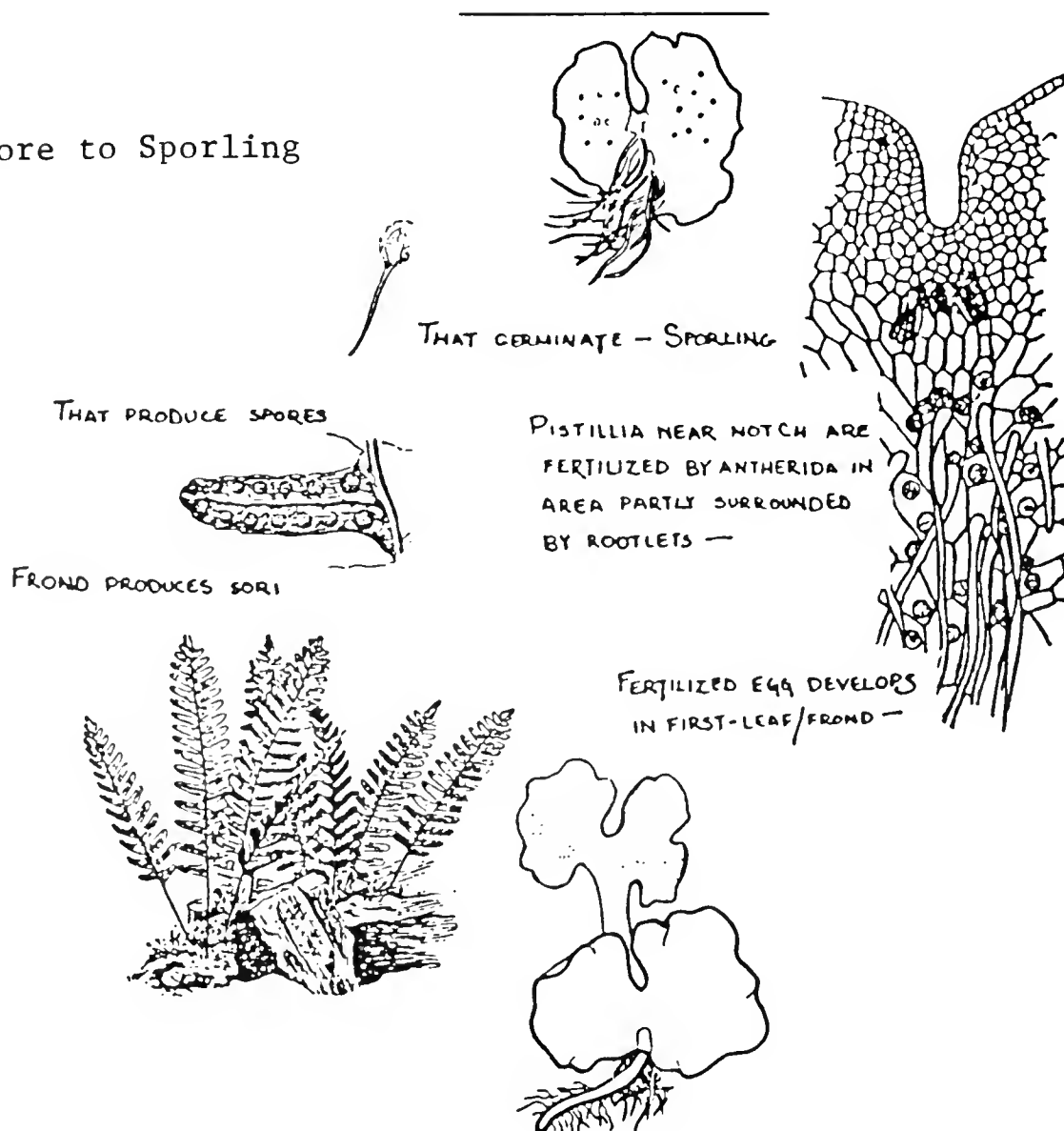
Paeonia obovata alba, offered in our seed exchange list, is a lovely white species peony with handsome foliage. As its decorative seed pods mature, the segments separate and curl back and soon split open to display shining, fat, black seeds and smaller scarlet ones. The latter are not viable; the former will not germinate until the second spring. They should be planted as soon as possible after ripening in a plastic container full of a loose medium; sink pot into the ground in an out-of-the-way place; they should be kept damp, of course; a piece of window screen over them will protect them from disturbances.

* * * * *

Brick propagation: You will need an unglazed brick, a pan at least two inches high, a mixture of one third sharp sand and two thirds sphagnum peat, dampened:

- ... pack the mixture on top of the brick (which has been well soaked) and set in pan; water should be at least an inch deep;
 - ... carefully sow a small number of seeds on top, press down gently;
 - ... slide label carefully under medium at one end of brick;
 - ... place in sheltered, shady spot (i.e. under eaves);
 - ... check water level occasionally;
 - ... Results: no dried seedlings, little, if any, damping off, and so easy to transplant! This simple process is good for primulas, Ericaceae and other small seed. (Some growers use one third each sterile and sifted garden soil, leaf mold or sphagnum, sand or grit.)
- GOOD LUCK!

From Spore to Sporling



Spore to Sporling

Judith I. Jones, Seattle, Washington

Although people no longer sprinkle fern "seeds" in their shoes to render them invisible or ingest them to provide second sight, fern spores are still a mysterious phenomenon to many. Understanding the biology of the typical fern life cycle helps shed some of the mystic of propagating ferns from spore. The pteridophyte (pronounced ter-id'o-fite) group differs in one important respect from the spermatophyte group: the ferns have alternating generations of spore-producing plants (asexual) and gamete-producing plants (sexual). The generation most of us are familiar with is the asexual sporophyte, that is, the visible fern. Spores from the underside of the fern frond which are collected and sown produce a gametophyte or prothallium. This one fourth-inch heart-shaped cellular tissue bears the sexual apparatus on the underside. Sperm are released from the male structure (antheridia) to "swim" to the female structure (archegonia) to fertilize the egg. Moisture is essential to the success of this union.

First let us take a look at the spore to be sown. Many a beginner has been discouraged by sowing nothing more than chaff. Using a clean sheet of paper, empty the spores onto it, then tilt the paper and tape lightly so that the chaff will move away from the heavier spore and can be discarded. Spore can also be filtered through camera lens paper to effect cleaning as the heavier spore will fall through leaving the chaff behind.

Having experienced the delights and despairs of spore propagation for a number of years I have formulated three watchwords for success: preparation, patience, and perseverance.

PREPARATION: The elimination of foreign elements is of prime importance in preparing the sowing media and environment which will host the prothallia during their development. Sowing may be done in anything from clear plastic boxes (some sow in small pots placed in a common clear box) to disposable plastic or styrofoam cups. The cover may be nothing fancier than durable plastic wrap. The container should be sterilized in a 10% household bleach solution and kept covered until ready to be used.

The medium used to grow the spore on can be as varied as the containers used. Peat moss, sand, milled sphagnum moss, leaf mould, vermiculite and combinations thereof have all been tried. I prefer a particular moisture retentive dark Canadian peat (four parts) laced with fine vermiculite (two parts) and a dash of perlite. All this is mixed in a plastic bag, wet thoroughly and processed in the microwave oven. When using the microwave remember that the medium must reach a temperature of 180 degrees F. for 30 minutes. Some experimentation with a meat thermometer helped me determine the appropriate setting and process time. Boiling water may be poured through the medium two or more times to achieve moderate sterilization. Remember to keep the preparation covered until needed to avoid airborne impurities.

PATIENCE: Now that you have labored through these elaborate steps you are all set to sprinkle the cleaned spore into a dated and labeled container. This can best be achieved by lightly tapping the spore from the paper onto the medium. Avoid sowing too thickly as this will inhibit later growth. One helpful trick for even sowing is to mix the spore with two to three parts blender-pulverized vermiculite (also sterilized by microwave or oven) so that you can see that all areas of the container are evenly sown. I prefer what I call a "good throw," meaning a solid mat of prothallia as this reduces the surface area available to contaminants when the culture is opened for watering or fertilization.

Depending on the species sown you will begin to see a green film in one to four months. The earlier germination time reflects the species sown, the source of illumination, and the temperature in the area. Fluorescent lights are highly recommended as they allow the grower complete control over the quantity and quality of the light. The culture may also be placed in an area where it will receive bright indirect sunlight. As the culture develops check to see that there is adequate moisture for fertilization to take place. When water is required use distilled or boiled cooled water to moisten the culture. A mist sprayer kept just for this purpose is handy and prevents you from overwatering. Food may be added to the water in one half the recommended dosage if the protballia or sporophytes begin to yellow.

PERSEVERANCE: At what stage you initiate your first division is up to you. How many plants do you require? I generally make three to four divisions for closed culture and one to two more in the uncovered flat culture. However, if your needs are small you may allow the young sporophytes to develop until they reach the top of your container. You can be inventive and invert other clear boxes and cups on top to extend the growing space. When you are ready to separate the clumps prepare them by opening the cover a small crack every few days for a two or more week period. This hardening off will toughen the ferns to be handled and survive in the open environment. Rather than pot each fern individually divide them into clumps of two to four plants and keep them in a flat until they develop a bit more. Baby ferns are root groupies and resent being detached too prematurely from their siblings.

In terms of the time involved in this process you may have a well-established fern in nine months to a year. Most temperate ferns will take at least two years to become mature enough to produce spore. This time frame is then again lengthened with the selective culture of certain unstable species variants.

Now as you begin to see where perseverance comes into play let me introduce you to one other disconcerting variable. Spore are wind-dispersed and fronds of one species may have a few spores from neighboring species which will develop in culture along with the desired fern. These "rogues" provide unending suspense for the novice grower -- who is who? So follow the three P's while maintaining a reasonable doubt as to the identity of your progeny and do try again if at any point you fail. I still heave many failures onto the compost but the joys far outweigh the disappointments and the wonder of this perpetual cycle keeps me endlessly intrigued.

N.O.H.S. ANNUAL MEETING

The Annual Meeting and Dinner of the Northwest Ornamental Horticultural Society will be held on April 28, 1983 at 6:00 p.m. Please take note that the location has been changed from the Broadmoor Golf Club, as previously announced, to the Seattle Yacht Club.

Invitations will be in the mail in early April, and all NOHS members and friends are cordially invited. We look forward to welcoming new Board members and to hearing our speaker, Sylvia Duryee, who will show slides and tell of her seed collecting adventures in the Yukon. So save the date and plan to join us.

WELCOME NEW MEMBERS

Marcia Baker 9050 Ridgeview Circle W., Tacoma, WA 98466	564-7815
Mr. C. D. Brickell, Director Royal Horticultural Society's Garden Wisley, Woking, Surrey GU23 6QB, England	
Arthur P. Dome 4832 - 54th South, Seattle, WA 98118	722-9111
Margaret Ford 3632 Interlake Avenue N., Seattle, WA 98103	632-0991
Gardener's Choice - Landscape - Nursery 3046 N.E. 98th, Seattle, WA 98115	525-0932
Peggy Garner 2150 - 130th Place S.E., Bellevue, WA 98005	
Karen Kalanity 4751 - 21st N.E., Seattle, WA 98103	527-1217
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Sylvia D. Phillips (Mrs. S. D.) P.O. Box 248, Medina, WA 98039	454-1206
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Ethne Anne Vik 3405 - 37th S., Seattle, WA 98144	722-3165
Edith D. Williams (Mrs. A. M.) Route 1, Box 180, Burton, WA 98013	

N.O.H.S. SPRING JOURNAL 1983

CALENDAR OF EVENTS

March 16 Plants and People of West Africa slide lecture
Arboretum Free Public Tours
Wednesdays, 10 to noon Arboretum classroom

March 20 Rhododendron Species Foundation Garden Schedule
P.O. Box 3798, Federal Way, WA 98003

Sunday Early Blooming Season Walks
1:00 p.m. to 5 p.m.

March 28 to June 6 Edmonds Community College
Hort 186 Landscape Maintenance Design
Th 1:40 - 4:00 p.m.

Hort 208 Annuals and Perennials
F 8:00 - 11:50 a.m.

Hort 223 Japanese Garden Arts
W 6:30 - 8:20 p.m.

April 3 to May 29 Primary Blooming Season Walks
1:00 p.m. to 5 p.m. Rhododendron Species Foundation Garden Schedule
P.O. Box 3798, Federal Way, WA 98003

April 6 to May 25
Wednesdays
10:00 a.m. to 3:00 p.m.

April 6 Southeastern Plants for Northwestern Gardens
10:00 a.m. to 12:00 p.m. Arboretum Classroom

May 18	Landscape Perception: Its Horticulture Relevance
10:00 a.m. to 12:00 p.m.	Arboretum Classroom

April 13	N.O.H.S.
Wednesday	Museum of History and Industry
10:30 a.m.	"Using Native Plants in the Northwest"
McCurdy Room	Dr. Arthur R. Kruckberg - University of Washington

April 20 N.O.H.S. Garden Tour
Wednesday Bus trip to Portland, Oregon
7 a.m. 1. Berry Botanic Garden: Plants of the Pacific Rim
2. A beautifully designed private garden
Meeting Place: North end of the Washington Park
Aboretum (outside the gate at
7:00 a.m.)

Price: \$45.00 includes bus, lunch and tour
NO cancellations after April 15, 1983

Check to: N.O.H.S. Garden Tour

Mrs. James R. Scott
9103 Lake Washington Blvd. N.E.
Bellevue, Washington 98004

CALENDAR OF EVENTS (Continued)

April 26 7:30 p.m. Kane Hall #220	Center for Urban Horticulture, University of Washington. Native Plants "The Other Side of the Coin." Dr. Harrison Flint is a landscape plant specialist from Purdue University and currently a Visiting Professor at the Center for Urban Horticulture, the sponsor of the event.
April 27 and 28	Children's Orthopedic Plant Sale University Village Parking Lot
April 28	N.O.H.S. Annual Dinner, Seattle Yacht Club
May 6	South King County Arboretum Foundation Annual Plant Sale. Golden Steer Restaurant Boardwalk, Benson Center, S.E. 240th and 104th Avenue S.E., Kent, Washington.
May 4: 1 p.m. to 8 p.m. May 5: 10 a.m. to 1 p.m.	Arboretum Foundation Plant Sale, Arboretum office parking lot.
May 14 and 15 Sat: 10 a.m. to 5:30 p.m. Sunday: Noon to 5 p.m.	King County Iris Society Exhibitions: Early Blooming Iris, Dwarf and Intermediate Iris. Crossroads Mall N.E. 8th at 156th N.E.
May 14 and 15	Bellevue, Washington Dungeness Bonsai Society. Irrigation Festival Bonsai Show. Sequim, Washington.
June 1 Wed., 10 a.m.	Tour of Sallie Allen's Collector's Garden. Meeting place: Washington Park, Arboretum Office. Check to: N.O.H.S. Garden Tour Mrs. James R. Scott 9103 Lake Washington Blvd. N.E. Bellevue, Washington 98004
June 4 and 5 Sat.: 10 a.m. to 6 p.m. Sunday: 11 a.m. to 5 p.m.	King County Iris Society Exhibitions: Peak Season Show, more than 300 varieties. Southcenter Mall I-5 at Tukwila
June 10 to 12	Portland Bonsai Society Bonsai Show, Miller Hall at Forestry Center, Portland, Oregon.
July 4 to 7, 1984	International Bonsai Congress, Westin Hotel, Seattle.

YEARBOOK CHANGES

With sincere apologies we submit the following corrections, changes, and additions to our 1983 Yearbook. You will find it helpful to correct your copy.

Page 4 - NOHS Life members should read as follows:

Mrs. Frederic J. Blanchett
Dr. and Mrs. Hershell Boyd
Mr. and Mrs. Prentice Bloedel
Mr. and Mrs. Phil Duryee (add)
Mrs. Kemper Freeman, Sr. (add)
Mrs. Henry C. Isaacson, Sr. (sp)
Mrs. Henry C. Isaacson, Jr. (sp)
Mrs. Perry Johanson (add)
Mr. and Mrs. Richard Lea
Mr. and Mrs. Pendleton Miller
Mr. and Mrs. John Putnam (add)
Sir George Taylor (add)
Mr. Corydon Wagner (sp)
Mrs. Walter Wycoff
Mrs. Thomas Youell (delete) deceased

Page 5 -
Dr. George Beckmann (sp)
Dr. John Wott, Professor, Urban Horticulture

Page 7 -
Mrs. Henry C. Isaacson, Jr. (sp)

Page 10 - Education Fund - please add:
Mrs. W. Bruce Jones (Sis)

Page 12 -
Nominations - Mrs. Gordon B. Anderson,
Chairman (Mayde) 455-4477

Page 16 - Add:
BETHEL, Dean and Mrs. James S.
(Marynell) 232-0706
3816 East Mercer Way, Mercer Island 98040

Page 23 & 52 -
Dr. and Mrs. J. G. Elliott

Page 23 & 50 -
Fancy Fronds - Judith I. Jones 284-5332

Page 24 - Delete
Fleming, Mrs. Douglas K. (repeated from page 23)

Page 30 -
Jones, Mrs. W. Bruce (Sis) 322-5944

Page 31 - Delete:
Langdon, Mrs. Lewis (deceased)

Page 33 & 50 - Name and address correction:
Loo Wit Gardens (509) 965-3408
2515 Shannon Road, Yakima, WA 98908

Page 35 & 52 -
Muirhead, C. W., change Mrs. to Miss

Page 39 - Add phone number:
Putnam, Mr. and Mrs. Robert C. 822-1124

Page 49 -
Wright, Mr. Ellis, change to Mrs.

Page 49 - Delete
Youell, Mrs. Thomas (deceased)

Digging Ferns in the Wild

George Schenk, Kirkland, Washington - Auckland, New Zealand

There is a moral weight limit that figures in the digging of any fern in the wild; it is comparable to the size limit in trout fishing -- only the plant may be too much and the fish too little. Trout under six-inches long? Slip it back into the water before it gasps its last. Fern a rarity in the vicinity, or growing smack in public view? Say hello to it and walk on by.

The fern beside the trail is not for the digging, of course. That one is the community property of a splendid society in which you yourself number: those naturalists who possess the refinement of vision to admire this detail in the picture of the day. But, the fern well-away from the public track, among many of its kind, may be fair and decent game. Perhaps not everyone on the trail will agree with one's moral judgment, and so it is not a bad idea when digging ferns to be as covert as a cat burglar.

I speak as an old-time collector of plants in the wild, always a sparing one -- and always a sneaky one, a standerby in bogus innocence while business-like hikers, absolute Savonarolas of conservation, I have not a doubt, march past and on up the trail. Strange it is, though, to my cognition of nature, that the forward-march hikers never seem to pause to examine a fern or any other kind of plant; they must register greenery in unfocused, impressionistic strokes of color.

Now that they are gone, back to the subject: considerate rapine. Common eastern, western, or all-American species such as the royal fern, lady fern, wood ferns, polypodys, Christmas fern, and sword ferns are not endangered as species even by commercial collectors. Commercial digging (mainly of eastern species to supply mail order nurseries) is conducted by permission on private land and by permit in public forests. Amateur gardeners, too, may obtain permits to collect in certain forest reserves; and of course the gardener tempted by a wealth of ferns on private property will want to avoid a sicking of mastiffs by asking the owner before digging. But nature gives no permission to take rock ferns (*Pellaea*, *Cheilanthes*, *Asplenium*, certain *polystichums*, and others) or any uncommon fern anywhere, and can no longer stand their removal. Nurseries should now identify their rarer North American ferns as nursery-grown from spores, and should drop the selling of collected rarities.

Enough morality. I am less in character preaching abstinence than I am lobbying for more prudent nicking from nature. I think we all do a bit of this; the thing is to be unwasting of life. Take fewer than you need (am I beginning to sound dictatorial? -- excuse it), and to bring 'em back alive, carry plastic bags large enough to enclose the ferns, fronds and all. Carry water if there is none along the trail, and wet the roots of the ferns before you bag them. Keep the bagged ferns out of the sun. Late summer through the winter to early spring, the dormant season of ferns, is the best time to collect. The big woodland species can be moved during any month, even during soft growth, but then less easily than during dormancy. You can, as a convenience, cut off all the old fronds of dormant woodland ferns before you dig them, and take home only the crowns. Leaving the old fronds on the plants is usually not a good idea, anyway. In the process of tussling the fern out of woodland soil, and into the ground at home, the fronds are likely to become

battered and depressing to behold. And shade in the home garden never seems to match woodland shade: fronds developed in the wild tend to blanch in the fernery at home.

Polypodys (*Polypodium*) are often easily collectible -- a matter of merely rolling up a weft of fern and moss -- but slow to get going in the garden. Plant the fern firmly but shallowly, with the moss and the naturally exposed parts of the fern rhizomes unburied, in woodsy soil in full shade. If you are fortunate enough to have a nurse log (a fertile rotted log) at home in a richly shady garden location, you can establish polypodys and other epiphytic species by gouging a shallow depression in the log for each fern, then by pressing the fern gently into the cradle. Water the transplant lavishly for a year, by which time the fern may be established. Plants in fascinating array are growable on a nurse log: trees (which, if the log is firm enough to prevent their roots from penetrating far, become with slow growth, bonsai-esque; may rhododendrons and other ericaceous plants -- huckleberries, especially; many kinds of ferns.



Dennis Thompson

Now about those rock ferns -- I do not really expect any of us to absolutely and strictly pay attention to the Verboten!! sign one hundred percent of the time. The other week, here in New Zealand, an active plant conservationist, of many a lecture and paper on the subject, showed me a bit of rock fern (*Cheilanthes*) she had recently collected on a picnic. Yes, we

all do a bit of nicking -- 96 percent of us anyway. If in spite of everything, you cannot help yourself when you come to the fern in the rock (fixed there as fatally as the emerald eye in the idol) let me give you a tip or two to help insure the life of the one you take. Is it in growth? Are there soft, new fronds in evidence? In that case, the chance of successful transplantation is small and the chance of killing the fern in digging it is overwhelming. Come back in the dry season when the fern is dormant (August and September, usually, in the Northern Hemisphere). When you are there at the right time, and breathing a little fast from climbing and covetousness -- how well I know this game -- take it easy, take time to examine the fern community at hand. Hardly any fern in any of the crevices can be got out without killing the plant. Any fern torn away from the rocks without approximately as much root system as top growth is lost, wasted, culpably destroyed. Your best chance of getting a fern out alive is in removing stones from the fern roots, rather than trying to jimmy the fern out of the rocks. Pry away stones experimentally; a big, strong, old screwdriver (which will become instantly older) is the best tool for this. Occasionally you can free a clump of rock fern, roots intact down to the root hairs, and all the ancient rock dust and humus feeding that fern will come away from the rock clinging the root mass, and only on this occasion will you have captured a substantial and likely one to take home.

Plant the rock fern in an airy mix of sand with scant leafmold, within an unglazed clay pot or in a flat; keep it for the rest of the summer in dappled shade, or in a lath house, or in morning sun-afternoon shade. Water it lightly but frequently. With the onset of autumn rains, your captive will be ready for a more permanent place in the garden, if by now it is not in sad need of a permanent resting place. Spore-grown rock ferns are a better idea.

Book Review

ALPINES '81, Conference Report of the Fifth International Rock Garden Plant Conference and Show. 1982. Alfred Evans, Editor. Printed in Scotland. 299 pp., illustrated, index.

The introduction by editor, Alfred Evans (and showman-organizer who was a presiding spirit everywhere at the event), helps set the tone for this delightful work: "I hope you enjoy reading this report. I hope it brings back pleasant memories of April days spent in good company and among wonderful plants. Those who were at the conference may be aware of some of the omissions, there are not many I trust, and those who read this report and were not at Nottingham will, I hope, glean much from what is written. The question for the future, however, is where will the 6th International Rock Garden Plant Conference be held? When that is answered, I hope the project will receive the same support and encouragement as Alpines '81.

I had planned to review this hefty book by comparing and contrasting it with *Alpines of the Americas*, a similar report on a similar event held in 1976

in Seattle and Vancouver, B.C. Neither suffers in the comparison; they are both lively and important books that offer a wealth of reference material, not the sweet-memento thing that gets attention only when one is dusting the shelves. However, my attempt at this type of review has largely collapsed in futility: can one successfully compare and contrast an excellent piece of lemon chiffon pie with an equally choice one of chocolate cream pie?

And so the comparison will be brief. The four-day Alpines '81 event generated 299 pages, or a 75 page per day output, while the longer seven-day Interim Conference in 1976 would appear to have gone at a more civilized pace, for its 372 pages averaged but 53 pages per day. Attendees at both know that both the sated-exhausted participants wishing afterward for more time to pause, to reflect. The real reason for the length variance is quite another matter. Because the Alpines of the Americas report had to await long-overdue after-the-fact written papers from participants, and so wrote up many of the talks from transcriptions made in the auditorium, the Alpines '81 people were told before their conference that if their reports weren't delivered in writing concurrent with the lecture, they wouldn't be able to be printed in the Report! The idea worked quite well and resulted in publication only a year after the event. To reverse the coin, I find the struggle of working from transcriptions and incorporating letters and comments from many delegates did serve to give a richer you-are-there flavor to the 1976 Interim Conference book.

On the other hand, the Alpines '81 report has excelled the well-praised photography of the other book (in truth, I would part with neither). The 70 color illustrations are reason enough to own the book or to use as a reference when hunting rarer items in the seed lists. I wish *Meconopsis horrida* could leap off the cover and into my garden, complete with its 723 bristly hairs, bringing its blue Himalayan sky with it. And no other publication of this price has such jewels so well photographed as this one.

Since I consider the photos the proudest part of this book, let me list 14 more of my favorites: *Androsace delavayi* with snow-white cushions; *Diapensia lapponica* (pink form); *Corydalis transsilvanica*, the elfin yellow *Primula barnardoana*; *Primula hidakana*, *Narcissus rupicola*, *Gentiana depressa* joyously rejecting its name with one of the most thrilling bits of sky blue I have seen on film; *Fritillaria camschatcensis* 'Aurea', *Menziesia cilicalyx*, *Ranunculus lyallii*, *Campanula lasiocarpa*, *Tropaeolum tricolorum*, *Eranthis pinnatifida*, an immaculate buttercup with a boss of chocolate stamens; and Rolf Fiedler's photo from the Argentine Andes of *Rhodophiola andicola* (*Hippeastrum*) which he understates as "one of the showiest plants in the area," dwarf upright solitary star-trumpets of mallow pink. Tucked among the 30 equally fine black and white photos are things like the rosulate *Viola columnaris* and *Primula kisoana alba*. Line drawings -- 19 of them -- by Vickie Mathews add a nice thread linking the different sections and articles. Among her best efforts is a sparkling-clear drawing of *Crocus sieberi*.

Unlike the earlier Alpines of the Americas, this Report lacks the central theme to tie things together. It, rather, has a broadside approach that examines a few genera -- *Rhododendron*, *Corydalis*, *Helleborus*, *Narcissus*,

Fritillaria -- plus a few regional rock-alpine floras -- Macedonia, Alaska, Himalayas, North American woodlands, New Zealand, Tasmania, Argentina and Japan. Then there are excellent articles on conservation, plant collectors, introduction and maintenance of new plants, and a disappointingly-general treatment of "Modern Vegetative Propagation."

The final reason the book is a worthy acquisition is that it offers a chance to visit in print with many of the important modern personages in the field (which, frustratingly, Nottingham seemed to find an exclusively male group): Jack Drake, Lionel Bacon, Chris Brickell, Alfred Evans, Brian Matthew, Jim Archibald, Dick Redfield, Duncan Lowe, George Smith, Brinsley Burbidge, Jim LeComte, Ken Gillanders, Brian Halliwell, Rolf Fielder, Barry Starling and Michael Upward. Unfortunately you may have to seek far to find a copy, since it was produced primarily for attendees and only a limited number of additional copies were produced. If you can find one, get it.

- Marvin Black

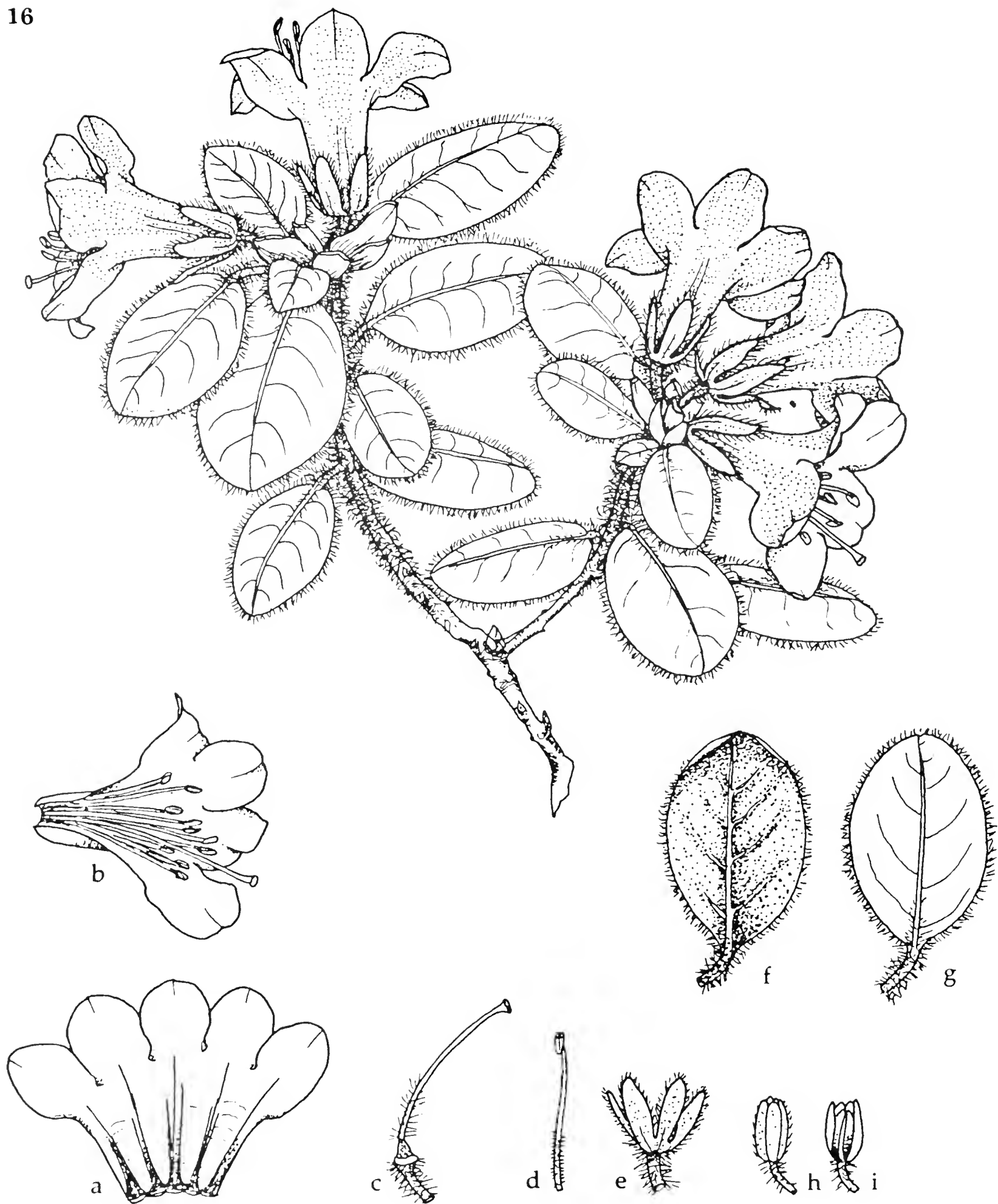
Book Review

THE RHODODENDRON SPECIES VOLUME I LEPIDOTES. 1982 H. H. Davidian. Timber Press, Portland, Oregon. 431 pp., illustrated 40 pp. color plates, 8 pp. black and white, 40 botanical drawings. Hardbound cover. \$59.95.

Congratulations to Timber Press for publishing another magnificent authoritative work to enhance the libraries of all Rhododendron species lovers and to the Rhododendron Species Foundation for sponsoring this outstanding endeavor. This review is not written by a botanist or an expert on the genus *Rhododendron*, but by an enthusiastic horticulturist growing over 120 species in the garden and constantly amazed and excited with the discovery of a "new" and fascinating species in this remarkable and varied genus of the *Ericaceae* family. Although I am well aware of recent work done by Cullen, Chamberlain and the Philipsons, it is not within the scope of this review to enter into any discussion of this question; Mr. Davidian states his opinion emphatically in his General Introduction.

Mr. Davidian, associated with the Royal Botanic Garden, Edinburgh, for 40 years, is an internationally recognized authority on the genus *Rhododendron*. In 1975 when he visited the Pacific Northwest it was a great personal privilege to welcome him to this garden and to learn that he is a warm people-plantsman, intensely interested in the horticultural questions involved in individual gardens, soil conditions, site, exposure, as well as source of unusual forms. He never failed to notice and comment on things that especially pleased him. For example, in observing my favorite, the miffy little *Rhododendron ludlowi*, which seemed to be outdoing itself flowering for our honored guest, he stated enthusiastically, "You do that so well!".

The *Rhododendron Species Volume I. Lepidotes* is lavishly illustrated; 95 colored photographs, 9 black and white, 35 excellent botanical drawings of individual species with detailed indentifying features such as leaf, capsule, flower, section, etc. There are also drawings illustrating leaf and flower shapes, scales and seed; and maps of Southeast Asia and China.



8. *R. valentinianum*
nat. size

a. petal. b. section. c. ovary, style. d. stamen. e. calyx. f. leaf (lower surface).
g. leaf (upper surface). h. capsule (enclosed). i. capsule.

The Glossary, General Index and Index of Species are exceptionally good. There are sections on the history of *Rhododendron* introductions, expeditions and collectors; a list of synonyms; and a synopsis of Lipidote *Rhododendron* species and some of their characteristics.

Each series has a botanical description, distribution in the wild and comments on general diagnostic features, followed by a key to the series. Each species is then described botanically. Included are many interesting facts about when, where and by whom it was collected, garden merit, awards given, epithet, hardiness and flowering time. Each known variety is also described in detail, following the same precise format, with discussion on how it differs from the species. Each species and variety has the reference to the publication in which it was first described, by whom and the date for further research if desired. Of tremendous value to the plantsman and gardener is the descriptive material on where and how a specific *Rhododendron* grows in its native habitat; for example, whether it may be found on rocky cliffs at 12,000 feet elevation or boggy meadows on the edge of coniferous forests or in tangled woodland thickets, giving us a clue as to where it should be placed in the garden and what soil conditions to provide. Also of great importance is the information on the rate of growth and the ultimate size and shape we can expect a species to attain under garden conditions. When we have grown a rare species from seed, a cutting or have purchased a small plant, one of the greatest mistakes we make is not allowing enough space, necessitating periodic transplanting.

The *Rhododendron Species Volume I. Lepidotes* has been written for the botanist, the *Rhododendron* species expert and enthusiast alike. Without question it can be highly recommended as an extremely valuable addition to the home gardening library. It will always be enjoyed and will be used as a constant source of reference material.

Sallie Allen

The *Rhododendron Species Foundation* is the sole distributor of *Rhododendron Species Volume I. Lepidotes* (\$59.95). Shipping and handling charges U.S. and Canadian orders \$3.00 for the first book, \$1.00 for each additional. Washington residents add 7.6% tax. Overseas orders: \$3.50 (U.S. Funds Only) for the first book, \$1.00 each additional. Domestic orders shipped Parcel Post: shipping overseas by surface mail; 20% discount for orders of five or more copies. Full payment must accompany all orders.

Make checks payable to: *Rhododendron Species Foundation*
P.O. Box 3798
Federal Way, Washington 98003-0239

Tidbits

by Ladybug



A different look: With our new and more satisfactory method of producing the journal, the computer manufacturer thus far has supplied only one style of italics, which does not conform to our print style; the resulting effect detracts considerably from the printed page. The reason for italics is to have the botanical name stand out from the text. In this issue we are trying out an alternative method darkening the botanical names, and book titles as well, achieving the desired result, but does not conform with other horticultural publications. This could be a stop-gap solution until such a time as appropriate italics are made available, or we could be a bit innovative and continue this practice if it proves desirable. Your opinions and comments will be appreciated.

Wanted: An editorial assistant, with time to contribute to our journal, preferably northeast section of Seattle for convenience, and it is necessary to have your own transportation. If interested please call Sallie Allen, 363-3189.



Painting the leaves of hard to eradicate woody plants such as trailing blackberry, salal and mahonia with systemic herbicides will usually serve to get rid of them. Roundup is an excellent choice, although it does seem that the most effective time to apply it is in late September through October when there is considerable downward movement of sugars into the root system in preparation for winter dormancy.

It is also entirely appropriate to spray or paint the leaves anytime the weed plants begin to regrow. Allow them to put on three or four sets of leaves before applying the chemical.

Roundup is deactivated upon coming in contact with soil, and there is no need to worry about replanting an area which has been treated with it or using it in a setting in which desirable plants are also growing. The important thing is not to allow it to contact any green tissue of such plants, since this is the only site of absorption.


There are other herbicides, brush killers for example, which will accomplish the same effect as Roundup, but in many cases they tend to be active in the soil as well. MCPP, Dicamba and 2,4-D, members of the phenoxy group, are all likely to fall into this category. Commonly available ester formulations of these can also be damaging to desirable plants because of their volatility.

George J. Pinyuh
Area Extension Agent

NOHS Grant Awarded

The NOHS has awarded a \$3,095 grant to Mr. C. M. Girtch, Seattle Parks and Recreation Director of Operations. This award will enable him to participate as a selected representative from the U.S. in a study tour to the People's Republic of China during June 1983. The purpose of the tour is to study their system of providing parks, recreation, zoos and to exchange ideas. China is known as the Mother of Gardens and the parks demonstrate the use of beautiful and unusual horticulturally representative plant material. The landscape designs cleverly and attractively accommodate use by a dense population. The planning for the availability and pursuit of a variety of recreational activities is also astoundingly organized.

These parks are models from which we can benefit and we feel that Mr. Girtch is both sensitive and alert to improving our own environment. Mr. Girtch has consented to present a lecture after his return which will be announced in the future.

 Ericaceae Slide Library: We are trying to compile a comprehensive Ericaceae slide library (less rhododendrons and the true heather), for the Center of Urban Horticulture. With springtime almost upon us with our gardens bursting into bloom, and plans are being made for trips to explore our native flora, would our many fine photographers think of taking that extra slide to contribute to this collection? The ultimate goal would be to have a close-up of flower and/or fruit, one of the entire plant and an overall habitat view. You may also have duplicate slides within your present collection, one or more of which you would be willing to make available for this purpose. Please contact Sallie Allen.

Propagation: We would like to do an entire issue of Horticulture Northwest on Propagation; seed, sport, cuttings; special plants, special methods; transplanting and growing on; failures as well as successes from which we can learn. We would like a resource list of books (title, author, publisher) that addresses the subject. Please share your valuable experience with us. You do not have to be a writer to contribute one, two or three paragraph notes; the editorial staff will put it in appropriate form.

Sallie Allen



HERBS, ANYONE?

If you would like to exchange information, cuttings and seeds of herbs, call

Barbara Huston, 282-9076

Our interest could perhaps lead to formation of a national herb society chapter here, too!



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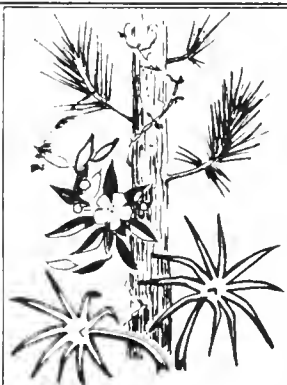
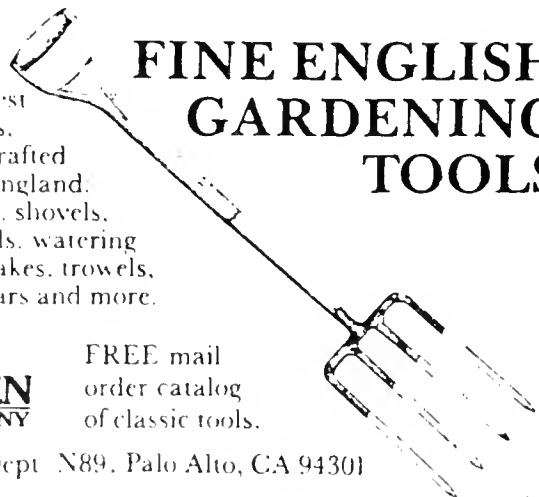
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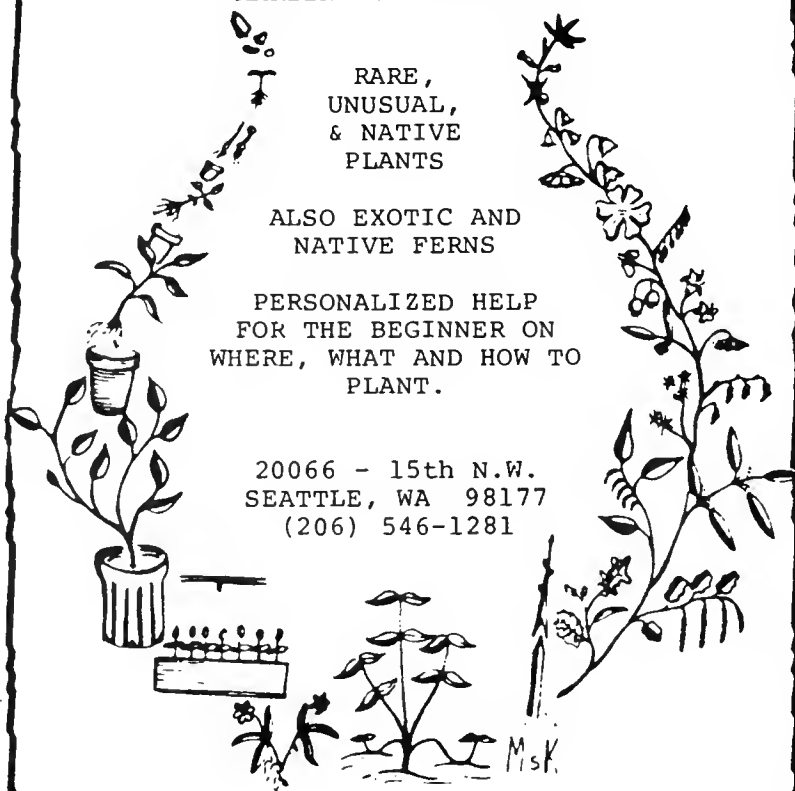
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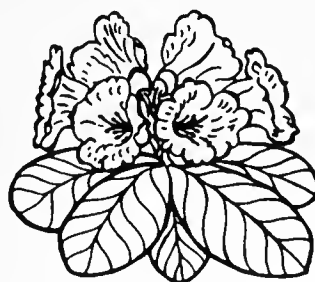
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FEATURING

Christopher Lloyd, England, two lectures. Fred McGourty, Brooklyn Botanic Garden, two lectures. Brian Halliwell, Kew Gardens, a workshop and one lecture. Also Sallie Allen, Dennis Thompson, and Jerry Flintoff, all of Seattle, and Francisca Darts of British Columbia. \$30 paid by May 20 lets you hear these world-class horticulturists, tour five gardens and specialty nurseries near Seattle, and more!



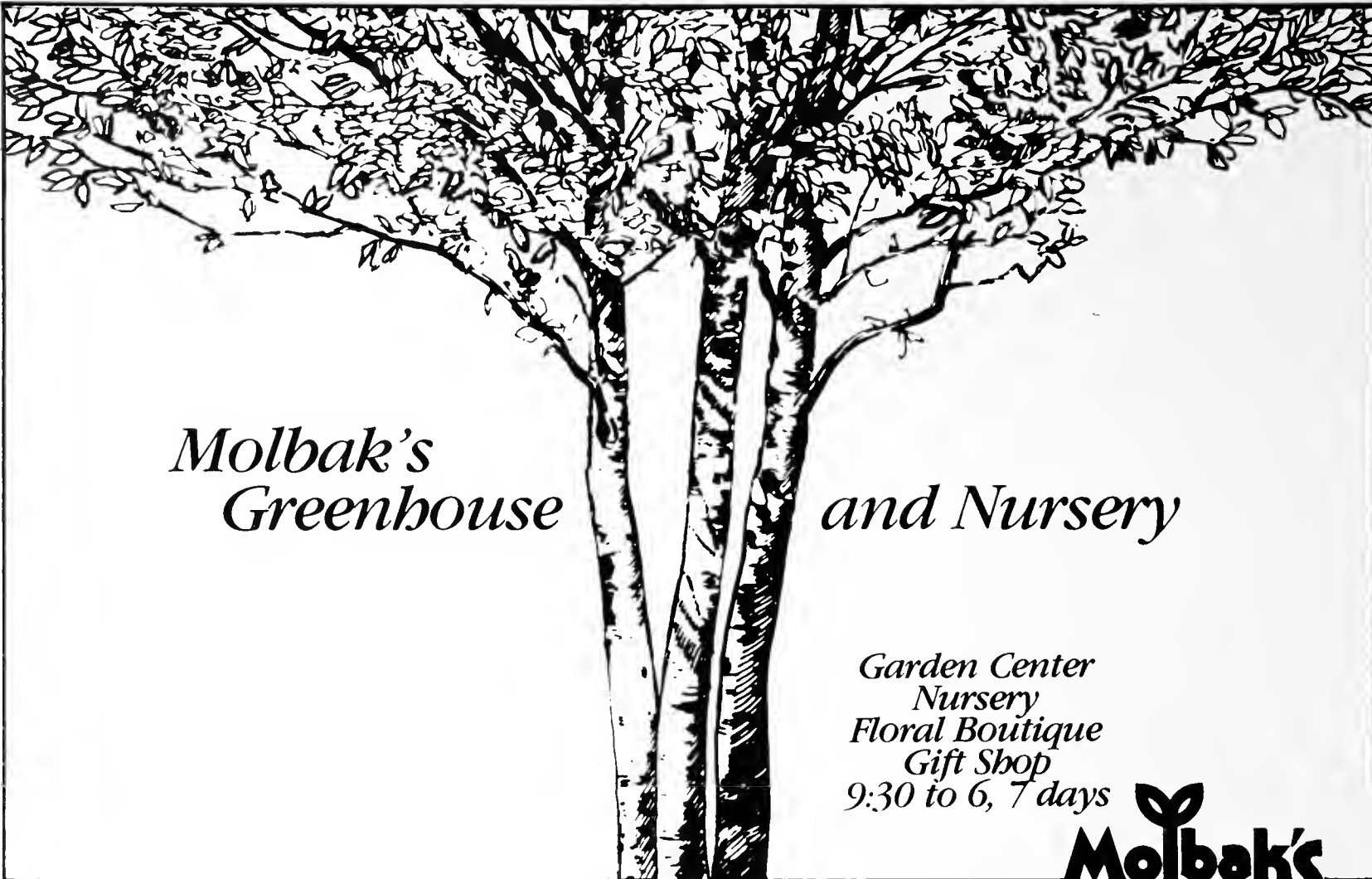
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